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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/468,673	12/21/1999	D LANSING TAYLOR	97223D	3907

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EXAMINER

PADMANABHAN, KARTIC

ART UNIT	PAPER NUMBER
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1641

DATE MAILED: 04/20/2004

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/468,673

Applicant(s)

TAYLOR, D LANSING

Examiner

Kartic Padmanabhan

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-- Th MAILING DATE of this c mmunication app ars on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 9-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 9-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/20/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1 and 9-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cherkuri et al. (US Pat. 5,980,704) in view of Chang (US Pat. 4,591,570).

Cherkuri et al. teach a cassette/fluid array (device tray) including micron-sized reservoirs, connected microchannels (fluid delivery system), and reaction cells etched into a substrate. The cassette is multi-layered, wherein three plates are stacked vertically and coupled together to form a liquid-tight seal. The reference further teaches the use of overflow feeds that control the reagent fluid level. The level of fluid is stabilized by draining excess fluids into these overflow feeds. The reference does not teach a non-uniform micropatterned chemical array.

Chang teaches an immunoassay device comprising a pattern or array of minute antibody-coated spots on the surface of the support. Each spot is made up of antibodies of different and

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distinct specificity (abstract). The reference does not teach a plurality of wells defining the space between the cell binding location and the fluidic location.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to use the non-uniform micropatterned chemical array of Chang with the device of Cherkuri because one would have had a reasonable expectation of success in depositing spots of antibody as in Chang in the wells of the device of Cherkuri to bind various antigens. One of skill in the art would have known that any receptors could be deposited into the etched reaction wells for analysis. In addition, although the references do not specifically teach the use of an individual microchannel to deliver fluid to only 1 domain, such an arrangement is viewed as optimization of the assay device, which one of skill in the art would have easily been able to do. To maintain separate fluid flow to each well, one of skill in the art would have had the requisite knowledge at the time of the invention to include channels extending from the reservoirs such that each channel independently provided fluid to each well.

Response to Arguments

4. Applicant's arguments with respect to the rejection(s) of claim(s) 1 and 9-22 over Balch and Cherkuri have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Cherkuri and Chang.

5. Applicant has argued (response dated 12/4/02) that Cherkuri et al. does not teach a surface containing cell-binding sites comprising wells and a plurality of domains matching the wells on the surface, of the instant claims. This argument is erroneous. The primary reference, Cherkuri et al., clearly teaches a bottom cell plate comprising a plurality of micron-sized reaction

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wells, which qualifies as the base having a surface containing cell-binding sites comprising wells. Above this bottom plate is situated a center distribution plate divided into a plurality of sectors configured in a grid pattern. Each sector is positioned directly above a reaction cell, which qualifies as the plurality of domains matching the wells on the base (See Col. 3, lines 21-41). In addition, applicant asserts that the reference does not teach a non-uniform micropatterned chemical array, to which the examiner acquiesces; however, this deficiency has been remedied by Chang.

6. Applicant also asserts that the rejection only addresses claim 1, and ignores the remaining pending claims, a position which is clearly erroneous. For example, the rejection, both in the present action and previously, has included a description of overflow feeds, which is present in claim 10, and not in claim 1.

Conclusion

Claims 1 and 9-22 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kartic Padmanabhan whose telephone number is 571-272-0825. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kartic Padmanabhan
Patent Examiner
Art Unit 1641



LONG V. LE
SUPERVISORY PATENT EXAMINER
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04/19/07